SANTA CRUZ BIOTECHNOLOGY, INC.

MMP-12 (G-2): sc-390863

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The matrix metalloproteinases (MMP) are a family of peptidase enzymes responsible for the degradation of extracellular matrix components, including collagen, gelatin, Fibronectin, laminin and proteoglycan. Transcription of MMP genes is differentially activated by phorbol ester, lipopolysaccharide (LPS) or staphylococcal enterotoxin B (SEB). MMP catalysis requires both calcium and zinc. MMP-12 (also designated macrophage metalloelastase) is produced in alveolar macrophages and degrades elastin. MMP-12 may contribute to elastin degradation occurring in granulomatous skin diseases and may also participate in macrophage migration through the epidermal and vascular basement membranes in inflammatory disorders.

CHROMOSOMAL LOCATION

Genetic locus: MMP12 (human) mapping to 11q22.2; Mmp12 (mouse) mapping to 9 A1.

SOURCE

MMP-12 (G-2) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 438-453 near the C-terminus of MMP-12 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

MMP-12 (G-2) is available conjugated to agarose (sc-390863 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-390863 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-390863 PE), fluorescein (sc-390863 FITC), Alexa Fluor® 488 (sc-390863 AF488), Alexa Fluor® 546 (sc-390863 AF546), Alexa Fluor® 594 (sc-390863 AF594) or Alexa Fluor® 647 (sc-390863 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-390863 AF680) or Alexa Fluor® 790 (sc-390863 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-390863 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

MMP-12 (G-2) is recommended for detection of MMP-12 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for MMP-12 siRNA (h): sc-41557, MMP-12 siRNA (m): sc-41558, MMP-12 shRNA Plasmid (h): sc-41557-SH, MMP-12 shRNA Plasmid (m): sc-41558-SH, MMP-12 shRNA (h) Lentiviral Particles: sc-41557-V and MMP-12 shRNA (m) Lentiviral Particles: sc-41558-V.

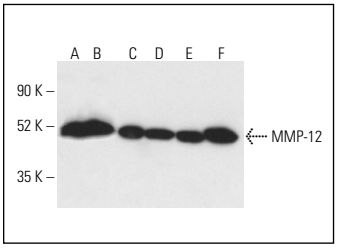
Molecular Weight of MMP-12: 48 kDa.

Positive Controls: SW480 cell lysate: sc-2219, A-10 cell lysate: sc-3806 or AMJ2-C8 whole cell lysate: sc-364366.

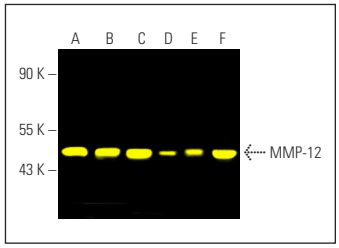
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



MMP-12 (G-2) HRP: sc-390863 HRP. Direct western blot analysis of MMP-12 expression in RAW 264.7 (**A**), PC-12 (**B**), AMJ2-C8 (**C**), SW480 (**D**), C6 (**E**) and EOC 20 (**F**) whole cell lysates.



MMP-12 (G-2) Alexa Fluor® 488: sc-390863 AF488. Direct fluorescent western blot analysis of MMP-12 expression in AMJ2-C8 (**A**), SW480 (**B**), RAW 264.7 (**C**), A-10 (**D**), NCI-H929 (**E**) and PC-12 (**F**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.

SELECT PRODUCT CITATIONS

1. Avola, R., et al. 2019. Hydroxytyrosol from olive fruits prevents blue-light-induced damage in human keratinocytes and fibroblasts. J. Cell. Physiol. 234: 9065-9076.
2. Mohan, A., et al. 2020. Matrix metalloproteinase-12 is required for granuloma progression. Front. Immunol. 11: 553949.
3. Chakraborty, S., et al. 2021. Agrin-Matrix Metalloproteinase-12 axis confers a mechanically competent microenvironment in skin wound healing. Nat. Commun. 12: 6349.
4. Nakashima, R., et al. 2022. Metformin suppresses epithelial sodium channel hyperactivation and its associated phenotypes in a mouse model of obstructive lung diseases. J. Pharmacol. Sci. 149: 37-45.
5. Challa, S.R., et al. 2022. The interplay between MMP-12 and t-PA in the brain after ischemic stroke. Neurochem. Int. 161: 105436.
6. Lin, C.P., et al. 2023. Tributyrin intake attenuates Angiotensin II-induced abdominal aortic aneurysm in $LDLR^{-/-}$ mice. Int. J. Mol. Sci. 24: 8008.
7. Jiang, X., et al. 2023. Identifying a dynamic transcriptomic landscape of the cynomolgus macaque placenta during pregnancy at single-cell resolution. Dev. Cell 58: 806-821.e7.
8. Abd Rahim, I.N., et al. 2023. Evaluation on the effectiveness of high cholesterol diet feeding in inducing early and established atherosclerotic lesions in new zealand white rabbits. Front. Biosci. 28: 70.
9. Zhang, S., et al. 2024. Treadmill exercise improves cerebral ischemia injury by regulating microglia polarization via downregulation of MMP-12. Int. Immunopharmacol. 142: 113210.

RESEARCH USE

For research use only, not for use in diagnostic procedures.